

REMARKS

Applicants thank the Examiner for the thorough consideration given the present application. The previous restriction requirement is withdrawn. Claims 1-15 are pending in this application and are amended. Claims 1, 6, 7, 11, and 12 are independent. Reconsideration of this application, as amended, is respectfully requested.

Drawings

Applicants have not received a Notice of Draftsperson's Patent Drawing Review, Form PTO-948, confirming approval of the formal drawings filed with the present application. It is respectfully submitted that the drawings comply with the requirements of the USPTO. Clarification with the next official communication is respectfully requested.

Acknowledgment of Information Disclosure Statement

The Examiner has acknowledged receipt of the Information Disclosure Statement filed May 1, 2001, and returned an initial copy of the Form PTO-1449. No further action is necessary at this time.

Rejections under 35 U.S.C. §112, first and second paragraphs

Claims 1-6 are rejected under 35 U.S.C. §112, first paragraph, for lack of enablement, and claims 1-15 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

Claims 1-15 are amended to comply with the requirements of 35 U.S.C. §112 and in accordance with the helpful suggestions of the Examiner. It is respectfully submitted that

amended claims 1-15 are clear, definite, provide full antecedent basis for the elements recited therein, and are fully enabled by the specification. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. §112, first and second paragraphs, are respectfully requested.

Rejections under 35 U.S.C. 102(b)

Claims 7-9 and 11 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,034,665 to Speaker. Claims 1, 3-6, and 12 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,110,440 to Case. These rejections are respectfully traversed.

While not conceding the appropriateness of the rejections, but merely to advance prosecution of the instant application, independent claim 1 is amended to recite an apparatus for a dipping treatment having a combination of elements, including a conveyor disposed above a treatment bath for dipping that is designed to cause a workpiece conveyed by the conveyor to be immersed in and emerge from the treatment bath for dipping, wherein the workpiece is supported above the conveyor through a carrier, and the carrier is swung above the treatment bath for dipping in a plane that is substantially perpendicular to a direction of travel of the conveyor to cause the workpiece to be immersed in and emerge from the treatment bath for dipping.

Independent claim 6 is amended to recite a dipping treatment method for a workpiece provided above a treatment bath for dipping, conveyed by a conveyor and immersed and

emerge from the treatment bath having a combination of steps, including supporting and moving a workpiece above the conveyor through a carrier, stopping the carrier above a treatment bath, and swinging the carrier above the treatment bath for dipping in a plane that is substantially perpendicular to a direction of travel of the conveyor to cause the workpiece to be immersed and to emerge from the treatment bath for dipping.

Independent claim 7 is amended to recite an apparatus for treating and conveying different kinds of workpieces in a mixed condition to a treating section having a combination of elements, including providing the apparatus with a corresponding exclusive treating section having dipping baths on each side of a conveyor for each different kind of workpiece, the workpiece on the conveyor can be horizontally rotated selectively, either to the right or left side in a direction of travel of the conveyor, corresponding to the treating section, and the apparatus is constituted to treat each workpiece.

Independent claim 11 is amended to recite an apparatus for treating and conveying different kinds of workpieces in a mixed condition to a treating section having a combination of elements, wherein the apparatus is provided with a corresponding exclusive treating section having dipping baths on each side of a conveyor for each different kind of workpiece, and the apparatus is adapted to allow the workpiece on the conveyor to be horizontally rotated selectively to the right or left side in a direction of travel corresponding to the treating conditions so as to treat the workpiece at either the right or left exclusive treating sections or

to pass the workpiece without rotating horizontally when treating conditions are not suitable for either of the exclusive treating sections.

Independent claim 12 is amended to recite a dipping treatment method for different kinds of workpieces in a mixed condition having a combination of steps, including supporting different kind of workpieces above a conveyor, moving the workpieces on the conveyor to a treatment bath, stopping a workpiece above the treatment bath; and rotating the workpiece on the conveyor selectively either to the right or left side substantially perpendicular to a direction of travel of the conveyor to treat each workpiece in accordance with the treating condition.

It is respectfully submitted that the combinations of elements and steps set forth in independent claims 1, 6, 7, 11, and 12 are not anticipated or made obvious by the prior art of record, including Speaker and Case.

In contrast to Applicants' claimed invention, Speaker merely discloses a conveyor system including rectangular platforms which move articles 5 along side rails 11 and 12 of the conveyor system, as shown in FIG. 1. The platform 2 may be tilted, as shown in FIG. 7. Since Speaker does not show a treatment process that includes dipping baths, Speaker does not teach or suggest the above-cited limitations of claims 7 or 11.

The Office Action turns to Case in rejecting claims 1, 3-6, and 12. Case discloses a row immersion system that includes rails 26, carriers 30, vehicle bodies 17, and rotating means 40 for rotating the vehicle bodies 17. When the vehicle bodies 17 are rotated, they are immersed in a fluid, as shown in FIG. 3. The vehicle bodies 17 taught in Case are rotated in a plane that is

parallel to the direction of travel along the process tank assembly. Therefore, Case does not teach or suggest the above-cited limitations of claims 1, 6, and 12. In particular, Case does not teach or suggest a carrier that is swung above a treatment bath in a plane that is substantially perpendicular to a direction of travel to cause the workpiece to be immersed and emerge from the treatment bath.

In view of the foregoing, it is respectfully submitted that Speaker and Case fail to anticipate or render obvious the presently claimed invention, and withdrawal of the rejections based thereon is respectfully requested. Independent claims 1, 6, 7, 11, and 12 are in condition for allowance. Since the remaining claims depend directly or indirectly from allowable independent claims, they are also allowable for at least the same reasons as set forth above, as well as for the additional limitations provided by these claims. Accordingly, all claims should be allowable.

Conclusion

Since the remaining patents cited by the Examiner have not been utilized to reject claims, but merely to show the state of the art, no comment need be made with respect thereto.

The stated ground of rejection has been properly traversed, accommodated, or rendered moot. It is believed that a full and complete response has been made to the outstanding Office Action, and that the present application is in condition for allowance. Applicants, therefore, respectfully request that the Examiner reconsider the presently outstanding objection and rejection and that they be withdrawn.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, she is invited to telephone Sam Bhattacharya, Reg. No. 48,107, at 703-205-8000.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,  
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**MARKED-UP COPY OF AMENDED CLAIMS 1-15**

1. (Amended) [A conveyance] An apparatus for a dipping treatment having a conveyor disposed above a treatment bath for dipping [and the like] and designed to cause a workpiece conveyed by the conveyor to be immersed in and emerge from the treatment bath for dipping [and the like], wherein the workpiece is supported above the conveyor through a carrier, and the carrier is swung above the treatment bath for dipping [and the like] in a plane [at right angles] that is substantially perpendicular to [the] a direction of travel of the conveyor to cause the workpiece to be immersed in and emerge from the treatment bath for dipping [and the like].
2. (Amended) The [conveyance] apparatus for the dipping treatment according to claim 1, wherein a part of the conveyor which is positioned above the treatment bath for dipping [and the like] is provided with a movable section which rotates in the plane [at right angles] that is substantially perpendicular to the direction of travel, and this movable section is caused to rotate together with the carrier.
3. (Amended) The [conveyance] apparatus for the dipping treatment according to claim 1, wherein the conveyor positioned above the treatment bath for dipping [and the like] is positioned in one level plane.

4. (Amended) The [conveyance] apparatus for the dipping treatment according to claim 1, wherein more than one treatment bath for dipping [and the like] are disposed in series, and the dipping treatment is performed for each treatment bath for dipping [and the like] in sequence.

5. (Amended) The [conveyance] apparatus for the dipping treatment according to claim 1, wherein a tact conveyance method is employed on the workpiece, whereby the dipping treatment is performed after the carrier is stopped above the treatment bath for dipping [and the like].

6. (Amended) A [conveyance method of] dipping treatment [of] method for a workpiece being provided above a treatment bath for dipping, conveyed by a conveyor and immersed and emerge from the treatment bath, comprising the steps of:

supporting and moving a workpiece above the conveyor through a carrier;  
stopping the carrier above a treatment bath [and the like]; and  
[swing] swinging the carrier above the treatment bath for dipping [and the like] in a plane [at right angles] that is substantially perpendicular to [the] a direction of travel of the conveyor to cause the workpiece to be immersed and to emerge from the treatment bath for dipping [and the like].

7. (Amended) [The conveyance] An apparatus for treating and conveying different kinds of workpieces in a mixed condition to a treating section, wherein:

the apparatus is provided with a corresponding exclusive treating section having dipping baths on each side of a conveyor for each different kind of workpiece[,];

the workpiece on the conveyor can be horizontally rotated selectively, either to the right or left side in [the] a direction of travel of the conveyor, corresponding to the treating section[,];

and the apparatus is constituted to treat each workpiece [in accordance with the treating conditions].

8. (Amended) [A conveyance] An apparatus for treating and conveying different kinds of workpieces in a mixed condition according to claim 7, wherein said treatment is a pretreatment process for the workpiece preceding a painting process in a painting line.

9. (Amended) [A conveyance] An apparatus for treating and conveying different kinds of workpieces in a mixed condition according to claim 7, wherein said treatment is a drying process for the workpiece subsequent to a painting process in a painting line.

10. (Amended) [A conveyance] An apparatus for treating and conveying different kinds of workpieces in a mixed condition according to claim 7, wherein said treating section comprises dipping baths, and the adjoining baths are arranged at different heights.

11. (Amended) [A conveyance] An apparatus for treating and conveying different kinds of workpieces in a mixed condition to a treating section, wherein said apparatus is provided with a corresponding exclusive treating section having dipping baths on each side

of a conveyor for each different kind of workpiece, and the apparatus is adapted to allow the workpiece on the conveyor to be horizontally rotated selectively to the right or left side in [the] a direction of travel[,] corresponding to the treating conditions so as to treat the workpiece at [any of] either the right or left exclusive treating sections or to pass the workpiece without rotating horizontally [in the case where the] when treating [condition is] conditions are not suitable for [any] either of [these] the exclusive treating sections.

12. (Twice amended) A [conveyance method for] dipping treatment [of] method for different [kind] kinds of workpieces in a mixed condition, comprising the steps of:

supporting different kind of workpieces above [the] a conveyor;  
moving the workpieces on the conveyor to a treatment bath;  
stopping a workpiece above [a] the treatment bath; and  
rotating [horizontally] the workpiece on the conveyor selectively either to the right or left side [in the] substantially perpendicular to a direction of travel of [a carrier] the conveyor to treat each workpiece in accordance with the treating condition.

13. (Twice amended) [A conveyance] An apparatus according to claim 7, [and] further including painting sections for applying different colors at both the left and right sides of [a single] the conveyor, and [a] wherein the workpiece, which is guided and moved by said conveyor, is allowed to rotate horizontally either to the right or left side and is painted with a required color in any one of said painting sections.

14. (Amended) [A conveyance] An apparatus [for multi-color painting] according to claim 13, wherein said painting is effected by electrodeposition, and each said painting section is a paint bath for dipping.

15. (Twice amended) A [conveyance] method according to claim 12, including the following steps of:

moving the workpiece to painting sections;  
stopping the carrier above the painting sections for applying different colors at both the left and right sides of [a single] the conveyor; and  
rotating the conveyor either to the right or the left side to paint the workpiece with a required color in any one of the painting sections.